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EXAMINER	
BATURAY, ALICIA	
ART UNIT	PAPER NUMBER
2155	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/056,682	DUFFIELD ET AL.	
	Examiner	Art Unit	
	Alicia Baturay	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 June 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *07/19/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the amendment filed 20 June 2007.

2. Claims 1-38 are pending in this Office Action.

Response to Amendment

3. The rejection is respectfully maintained as set forth in the last Office Action mailed on 20 March 2007. Applicant's arguments with respect to claims 1-38 have been fully considered but they are not persuasive and the old rejection maintained.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 5-7, 9, 20-34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frogner et al. (U.S. 6,735,553).

Frogner teaches the invention substantially as claimed including a system and method are provided for creating a network performance prediction model, and calibrating the prediction model, through application of network load statistical analyses. Probabilistic representations

of load data are derived to characterize the statistical persistence of the network performance variability and to determine delays throughout the network. The probabilistic representations are applied to the network performance prediction model to adapt the model for accurate prediction of network performance. Certain embodiments of the method and system may be used for analysis of the performance of a distributed application characterized as data packet streams (see Abstract).

6. With respect to claim 1, Frogner teaches a method for managing a data network, comprising the steps of:

Receiving an object, where the object is characterized by at least one attribute and where the object comprises at least one data element; determining whether to sample the object in accordance with a probabilistic parameter; sampling the object in response to the determining step and processing the sample in response to the sampling step (Frogner, col. 5, line 51 – col. 6, line 12).

7. With respect to claim 5, Frogner teaches the invention described in claim 1, including the method where the processing step comprises:

Aggregating a plurality of samples in accordance with the at least one attribute (Frogner, col. 8, lines 4-23).

8. With respect to claim 6, Frogner teaches the invention described in claim 1, including the method where the processing step utilizes one of the at least one attribute to determine whether to sample the object (Frogner, col. 8, lines 4-23).

9. With respect to claim 7, Frogner teaches the invention described in claim 6, including the method where the one of the at least one attribute comprises a size of the object, where the size includes a contribution of the at least one data element (Frogner, col. 1, lines 33-37).

10. With respect to claim 9, Frogner teaches the invention described in claim 6, including the method where the object comprises at least one data element, where the data element is selected from the group consisting of an octet, an Internet Protocol (IP) packet, a frame relay packet, and an Asynchronous Transfer Mode (ATM) cell (Frogner, col. 1, lines 33-37).

11. With respect to claim 20, Frogner teaches the invention described in claim 1, including the method further comprising the steps of:

Obtaining at least one sample from the processing step; and calculating an estimated sampling volume from the determining step (Frogner, col. 5, line 51 – col. 6, line 12).

12. With respect to claim 21, Frogner teaches the invention described in claim 20, including the method further comprising the step of:

Storing the estimated sampling volume (Frogner, col. 7, lines 11-12).

13. With respect to claim 22, Frogner teaches the invention described in claim 20, including the method further comprising the step of:

Reconfiguring the data network in accordance with the estimated sampling volume (Frogner, col. 6, lines 39-53).

14. With respect to claim 23, Frogner teaches the invention described in claim 20, including the method further comprising the step of:

Adjusting the probabilistic parameter in order that the measured sampling volume approximates a targeted sampling volume (Frogner, col. 6, lines 39-53).

15. With respect to claim 24, Frogner teaches the invention described in claim 23, including the method where the adjusting step comprises:

Updating a value of the probabilistic parameter corresponding to a sampling window (Frogner, col. 6, lines 39-53).

16. With respect to claim 25, Frogner teaches the invention described in claim 24, including the method where a current value of the probabilistic parameter equals a previous value of the probabilistic parameter multiplied by N divided by M, where N equals the measured sampling volume and M equals to the targeted sampling volume and where the previous value corresponds to a previous sampling window (Frogner, col. 8, line 29 – col. 9, line 67).

17. With respect to claim 26, Frogner teaches the invention described in claim 24, including the method where a current value of the probabilistic parameter equals a previous value of the probabilistic parameter multiplied by (N-R) divided by (M-R) if M is greater than N and multiplied by N/M if N is greater than M, where N equals the measured sampling volume, M equals the targeted sampling volume, and R equals the sampling volume for objects having a

size greater than the previous value of the probabilistic parameter (Frogner, col. 8, line 29 – col. 9, line 67).

18. With respect to claim 27, Frogner teaches the invention described in claim 24, including the method where a current value of the probabilistic parameter is determined by a set of numbers and a target sampling volume, where each number corresponds to a size of a sampled object that was sampled in a previous sampling window (Frogner, col. 8, line 29 – col. 9, line 67).

19. With respect to claim 28, Frogner teaches the invention described in claim 24, including the method further comprising the steps of:

Immediately updating a value of the probabilistic parameter when the measured sampling volume is greater than the targeted sampling volume in proportion to a measurement time duration, where the measurement time duration is less than the sampling window (Frogner, col. 8, line 29 – col. 9, line 67).

20. With respect to claim 29, Frogner teaches the invention described in claim 28, including the method further comprising the step of:

Realigning the sampling window in accordance with the step of updating the value of the probabilistic parameter (Frogner, col. 8, line 29 – col. 9, line 67).

21. With respect to claim 30, Frogner teaches the invention described in claim 25, including the method further comprising the step of:

Adjusting the measured sampling volume in accordance with a variance of the measured sampling volume (Frogner, col. 8, line 29 – col. 9, line 67).

22. With respect to claim 31, Frogner teaches the invention described in claim 26, including the method further comprising the step of:

Adjusting the measured sampling volume in accordance with a variance of the measured sampling volume (Frogner, col. 8, line 29 – col. 9, line 67).

23. With respect to claim 32, Frogner teaches the invention described in claim 27, including the method further comprising the step of:

Adjusting the measured sampling volume in accordance with a variance of the measured sampling volume (Frogner, col. 8, line 29 – col. 9, line 67).

24. With respect to claim 33, Frogner teaches the invention described in claim 1, including the method where the sampling step utilizes a quasi-random data sampling algorithm (Frogner, col. 8, line 29 – col. 9, line 67).

25. With respect to claim 34, Frogner teaches the invention described in claim 7, including the method where the probabilistic parameter is associated with a probability function that is characterized by a value equal to zero when the size of the object is zero, a linearly

increasing value when the size is between zero and the probabilistic parameter, and equal to one when the size is greater than the probabilistic parameter (Frogner, col. 8, line 29 – col. 9, line 67).

26. With respect to claim 36, Frogner teaches the invention described in claim 1, including the method where the probabilistic parameter corresponds to a first color and a second probabilistic parameter corresponds to a second color, where each color is associated with the at least one attribute (Frogner, col. 8, line 29 – col. 9, line 67).

27. Claims 2-4, 10, 12, 13, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frogner and further in view of Muratani et al. (U.S. 6,119,109).

28. With respect to claim 2, Frogner teaches the invention described in claim 1, including a method for managing a data network, comprising the steps of: receiving an object, where the object is characterized by at least one attribute and where the object comprises at least one data element; determining whether to sample the object in accordance with a probabilistic parameter; sampling the object in response to the determining step and processing the sample in response to the sampling step (Frogner, col. 5, line 51 – col. 6, line 12).

Frogner does not explicitly teach the use of a cost function.

However, Muratani teaches the method where the probabilistic parameter is determined from a cost function (Muratani, col. 7, lines 43-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frogner in view of Muratani in order to enable the use of a cost function. One would be motivated to do so in order to enable a billing system for billing a user accurate charges (fees) when information is utilized.

29. With respect to claim 3, Frogner teaches the invention described in claim 2, including a method for managing a data network, comprising the steps of: receiving an object, where the object is characterized by at least one attribute and where the object comprises at least one data element; determining whether to sample the object in accordance with a probabilistic parameter; sampling the object in response to the determining step and processing the sample in response to the sampling step (Frogner, col. 5, line 51 – col. 6, line 12).

Frogner does not explicitly teach the use of a cost function.

However, Muratani teaches the method where the cost function relates a network resource to a quality of measurements (Muratani, col. 27, line 65 – col. 28, line 15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frogner in view of Muratani in order to enable the use of a cost function. One would be motivated to do so in order to enable a billing system for billing a user accurate charges (fees) when information is utilized.

30. With respect to claim 4, Frogner teaches the invention described in claim 3, including the method where the network resource corresponds to a sampling volume and the quality of measurements corresponds to a sampling accuracy (Frogner, col. 5, line 51 – col. 6, line 12).

31. With respect to claim 10, Frogner teaches the invention described in claim 1, including a method for managing a data network, comprising the steps of: receiving an object, where the object is characterized by at least one attribute and where the object comprises at least one data element; determining whether to sample the object in accordance with a probabilistic parameter; sampling the object in response to the determining step and processing the sample in response to the sampling step (Frogner, col. 5, line 51 – col. 6, line 12).

Frogner does not explicitly teach the use of a cost function.

However, Muratani teaches the method further comprising the steps of charging a customer for the measured usage in accordance with a charging function, where the customer is associated with the at least one attribute and where the customer is presented a bill for a billing period and where a charging accuracy is related to the charging function and an accuracy of the measured usage (Muratani, col. 7, lines 43-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frogner in view of Muratani in order to enable the use of a cost function. One would be motivated to do so in order to enable a billing system for billing a user accurate charges (fees) when information is utilized.

32. With respect to claim 12, Frogner teaches the invention described in claim 10, including a method for managing a data network, comprising the steps of: receiving an object, where the object is characterized by at least one attribute and where the object comprises at least one data element; determining whether to sample the object in accordance with a probabilistic

parameter; sampling the object in response to the determining step and processing the sample in response to the sampling step (Frogner, col. 5, line 51 – col. 6, line 12).

Frogner does not explicitly teach the use of a cost function.

However, Muratani teaches the method where the charging step utilizes a minimum usage and a usage charge (Muratani, col. 18, lines 19-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frogner in view of Muratani in order to enable the use of a cost function. One would be motivated to do so in order to enable a billing system for billing a user accurate charges (fees) when information is utilized.

33. With respect to claim 13, Frogner teaches the invention described in claim 12, including a method for managing a data network, comprising the steps of: receiving an object, where the object is characterized by at least one attribute and where the object comprises at least one data element; determining whether to sample the object in accordance with a probabilistic parameter; sampling the object in response to the determining step and processing the sample in response to the sampling step (Frogner, col. 5, line 51 – col. 6, line 12).

Frogner does not explicitly teach the use of a cost function.

However, Muratani teaches the method where the charging step further utilizes a fixed charge (Muratani, col. 18, line 19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frogner in view of Muratani in order to enable the use of a cost

function. One would be motivated to do so in order to enable a billing system for billing a user accurate charges (fees) when information is utilized.

34. With respect to claim 35, Frogner teaches the invention described in claim 10, including a method for managing a data network, comprising the steps of: receiving an object, where the object is characterized by at least one attribute and where the object comprises at least one data element; determining whether to sample the object in accordance with a probabilistic parameter; sampling the object in response to the determining step and processing the sample in response to the sampling step (Frogner, col. 5, line 51 – col. 6, line 12).

Frogner does not explicitly teach the use of a cost function.

However, Muratani teaches the method where the charging function comprises a fixed charge and a usage charge, where the usage charge is determined from a charge per unit of data, a minimum usage, and the measured usage (Muratani, col. 18, lines 23-29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frogner in view of Muratani in order to enable the use of a cost function. One would be motivated to do so in order to enable a billing system for billing a user accurate charges (fees) when information is utilized.

35. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frogner and further in view of McCloghrie et al. (U.S. 6,920,112).

36. With respect to claim 8, Frogner teaches the invention described in claim 7, including a method for managing a data network, comprising the steps of: receiving an object, where the object is characterized by at least one attribute and where the object comprises at least one data element; determining whether to sample the object in accordance with a probabilistic parameter; sampling the object in response to the determining step and processing the sample in response to the sampling step (Frogner, col. 5, line 51 – col. 6, line 12).

Frogner does not explicitly teach normalizing the size of the object.

However, McCloghrie teaches the method where the processing step comprises: normalizing the size of the object (McCloghrie, col. 5, lines 21-24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frogner in view of McCloghrie in order to enable normalizing the size of the object. One would be motivated to do so in order to collect aggregate information about network traffic in which the accuracy of frequency measurements can be improved.

37. Claims 11, 14-19, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frogner in view of Muratani and further in view of Smyth et al. (U.S. 6,347,224).

38. With respect to claim 11, Frogner teaches the invention described in claim 10, including a method for managing a data network, comprising the steps of: receiving an object, where the object is characterized by at least one attribute and where the object comprises at least one data element; determining whether to sample the object in accordance with a probabilistic

parameter; sampling the object in response to the determining step and processing the sample in response to the sampling step (Frogner, col. 5, line 51 – col. 6, line 12).

Frogner does not explicitly teach the use of a cost function.

However, Muratani teaches the method further comprising the steps of charging a customer for the measured usage in accordance with a charging function, where the customer is associated with the at least one attribute and where the customer is presented a bill for a billing period and where a charging accuracy is related to the charging function and an accuracy of the measured usage (Muratani, col. 7, lines 43-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frogner in view of Muratani in order to enable the use of a cost function. One would be motivated to do so in order to enable a billing system for billing a user accurate charges (fees) when information is utilized.

The combination of Frogner and Muratani does not explicitly teach adjusting a probabilistic parameter in accordance with a charging accuracy.

However, Smyth teaches the method further comprising the steps of adjusting the measured usage in order to control possible overcharging to the customer (Smyth, col. 11, lines 4-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frogner and Muratani in view of Smyth in order to adjusting a probabilistic parameter in accordance with a charging accuracy. One would be motivated to do so in order to provide an indicator of relative cost to the user.

39. With respect to claim 14, Frogner teaches the invention described in claim 10, including a method for managing a data network, comprising the steps of: receiving an object, where the object is characterized by at least one attribute and where the object comprises at least one data element; determining whether to sample the object in accordance with a probabilistic parameter; sampling the object in response to the determining step and processing the sample in response to the sampling step (Frogner, col. 5, line 51 – col. 6, line 12).

Frogner does not explicitly teach the use of a cost function.

However, Muratani teaches the method further comprising the steps of charging a customer for the measured usage in accordance with a charging function, where the customer is associated with the at least one attribute and where the customer is presented a bill for a billing period and where a charging accuracy is related to the charging function and an accuracy of the measured usage (Muratani, col. 7, lines 43-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frogner in view of Muratani in order to enable the use of a cost function. One would be motivated to do so in order to enable a billing system for billing a user accurate charges (fees) when information is utilized.

The combination of Frogner and Muratani does not explicitly teach adjusting a probabilistic parameter in accordance with a charging accuracy.

However, Smyth teaches the method further comprising the step of adjusting the probabilistic parameter in order to achieve a predetermined degree of accuracy of charging the customer, where a sampling volume is related to the probabilistic parameter (Smyth, col. 11, lines 4-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frogner and Muratani in view of Smyth in order to adjusting a probabilistic parameter in accordance with a charging accuracy. One would be motivated to do so in order to provide an indicator of relative cost to the user.

40. With respect to claim 15, Frogner teaches the invention described in claim 10, including a method for managing a data network, comprising the steps of: receiving an object, where the object is characterized by at least one attribute and where the object comprises at least one data element; determining whether to sample the object in accordance with a probabilistic parameter; sampling the object in response to the determining step and processing the sample in response to the sampling step (Frogner, col. 5, line 51 – col. 6, line 12).

Frogner does not explicitly teach the use of a cost function.

However, Muratani teaches the method further comprising the steps of charging a customer for the measured usage in accordance with a charging function, where the customer is associated with the at least one attribute and where the customer is presented a bill for a billing period and where a charging accuracy is related to the charging function and an accuracy of the measured usage (Muratani, col. 7, lines 43-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frogner in view of Muratani in order to enable the use of a cost function. One would be motivated to do so in order to enable a billing system for billing a user accurate charges (fees) when information is utilized.

The combination of Frogner and Muratani does not explicitly teach adjusting a probabilistic parameter in accordance with a charging accuracy.

However, Smyth teaches the method further comprising the step of adjusting the probabilistic parameter in order to reduce unbillable usage within a predetermined percentage of the measured usage, where a sampling volume is related to the probabilistic parameter (Smyth, col. 11, lines 4-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frogner and Muratani in view of Smyth in order to adjusting a probabilistic parameter in accordance with a charging accuracy. One would be motivated to do so in order to provide an indicator of relative cost to the user.

41. With respect to claim 16, Frogner teaches the invention described in claim 10, including a method for managing a data network, comprising the steps of: receiving an object, where the object is characterized by at least one attribute and where the object comprises at least one data element; determining whether to sample the object in accordance with a probabilistic parameter; sampling the object in response to the determining step and processing the sample in response to the sampling step (Frogner, col. 5, line 51 – col. 6, line 12).

Frogner does not explicitly teach the use of a cost function.

However, Muratani teaches the method further comprising the steps of charging a customer for the measured usage in accordance with a charging function, where the customer is associated with the at least one attribute and where the customer is presented a

bill for a billing period and where a charging accuracy is related to the charging function and an accuracy of the measured usage (Muratani, col. 7, lines 43-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frogner in view of Muratani in order to enable the use of a cost function. One would be motivated to do so in order to enable a billing system for billing a user accurate charges (fees) when information is utilized.

The combination of Frogner and Muratani does not explicitly teach adjusting a probabilistic parameter in accordance with a charging accuracy.

However, Smyth teaches the method further comprising the step of adjusting the billing period in order to control a degree of accuracy for charging the customer (Smyth, col. 11, lines 4-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frogner and Muratani in view of Smyth in order to adjusting a probabilistic parameter in accordance with a charging accuracy. One would be motivated to do so in order to provide an indicator of relative cost to the user.

42. With respect to claim 17, Frogner teaches the invention described in claim 14, including a method for managing a data network, comprising the steps of: receiving an object, where the object is characterized by at least one attribute and where the object comprises at least one data element; determining whether to sample the object in accordance with a probabilistic parameter; sampling the object in response to the determining step and processing the sample in response to the sampling step (Frogner, col. 5, line 51 – col. 6, line 12).

Frogner does not explicitly teach the use of a cost function.

However, Muratani teaches the method further comprising the steps of charging a customer for the measured usage in accordance with a charging function, where the customer is associated with the at least one attribute and where the customer is presented a bill for a billing period and where a charging accuracy is related to the charging function and an accuracy of the measured usage (Muratani, col. 7, lines 43-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frogner in view of Muratani in order to enable the use of a cost function. One would be motivated to do so in order to enable a billing system for billing a user accurate charges (fees) when information is utilized.

The combination of Frogner and Muratani does not explicitly teach adjusting a probabilistic parameter in accordance with a charging accuracy.

However, Smyth teaches including the method where the probabilistic parameter is adjusted (Smyth, col. 11, lines 4-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frogner and Muratani in view of Smyth in order to adjusting a probabilistic parameter in accordance with a charging accuracy. One would be motivated to do so in order to provide an indicator of relative cost to the user.

43. With respect to claim 18, Frogner teaches the invention described in claim 15, including a method for managing a data network, comprising the steps of: receiving an object, where the object is characterized by at least one attribute and where the object comprises at least one

data element; determining whether to sample the object in accordance with a probabilistic parameter; sampling the object in response to the determining step and processing the sample in response to the sampling step (Frogner, col. 5, line 51 – col. 6, line 12).

Frogner does not explicitly teach the use of a cost function.

However, Muratani teaches the method further comprising the steps of charging a customer for the measured usage in accordance with a charging function, where the customer is associated with the at least one attribute and where the customer is presented a bill for a billing period and where a charging accuracy is related to the charging function and an accuracy of the measured usage (Muratani, col. 7, lines 43-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frogner in view of Muratani in order to enable the use of a cost function. One would be motivated to do so in order to enable a billing system for billing a user accurate charges (fees) when information is utilized.

The combination of Frogner and Muratani does not explicitly teach adjusting a probabilistic parameter in accordance with a charging accuracy.

However, Smyth teaches including the method where the probabilistic parameter is adjusted (Smyth, col. 11, lines 4-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frogner and Muratani in view of Smyth in order to adjusting a probabilistic parameter in accordance with a charging accuracy. One would be motivated to do so in order to provide an indicator of relative cost to the user.

44. With respect to claim 19, Frogner teaches the invention described in claim 16, including a method for managing a data network, comprising the steps of: receiving an object, where the object is characterized by at least one attribute and where the object comprises at least one data element; determining whether to sample the object in accordance with a probabilistic parameter; sampling the object in response to the determining step and processing the sample in response to the sampling step (Frogner, col. 5, line 51 – col. 6, line 12).

Frogner does not explicitly teach the use of a cost function.

However, Muratani teaches the method further comprising the steps of charging a customer for the measured usage in accordance with a charging function, where the customer is associated with the at least one attribute and where the customer is presented a bill for a billing period and where a charging accuracy is related to the charging function and an accuracy of the measured usage (Muratani, col. 7, lines 43-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frogner in view of Muratani in order to enable the use of a cost function. One would be motivated to do so in order to enable a billing system for billing a user accurate charges (fees) when information is utilized.

The combination of Frogner and Muratani does not explicitly teach adjusting a probabilistic parameter in accordance with a charging accuracy.

However, Smyth teaches including the method where the probabilistic parameter is adjusted (Smyth, col. 11, lines 4-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frogner and Muratani in view of Smyth in order to

adjusting a probabilistic parameter in accordance with a charging accuracy. One would be motivated to do so in order to provide an indicator of relative cost to the user.

45. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frogner in view of Smyth in view of Muratani and further in view of McCloghrie.

46. With respect to claim 37, Frogner teaches a method for charging a customer for a usage of a data network, comprising the steps of:

Adjusting a probabilistic parameter (Frogner, col. 8, line 29 – col. 9, line 67); receiving an object, where the object is characterized by a size (Frogner, col. 1, lines 33-37) and a customer (Frogner, col. 8, lines 4-23); determining whether to sample the object in accordance with the probabilistic parameter, wherein the function relates the probabilistic parameter to a sampling accuracy and a sampling volume; sampling the object in response to the determining step and relates the probabilistic parameter to a sampling accuracy and a sampling volume (Frogner, col. 8, line 29 – col. 9, line 67).

Frogner does not explicitly teach adjusting a probabilistic parameter in accordance with a charging accuracy.

However, Smyth teaches adjusting a probabilistic parameter in accordance with a charging accuracy and adjusting the usage in accordance with the charging accuracy; and determining a charge to the customer in response to the adjusting step (Smyth, col. 11, lines 4-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frogner in view of Smyth in order to adjusting a probabilistic parameter in accordance with a charging accuracy. One would be motivated to do so in order to provide an indicator of relative cost to the user.

The combination of Frogner and Smyth does not explicitly teach the use of a cost function.

However, Muratani teaches the method where the probabilistic parameter approximately optimizes a cost function (Muratani, col. 7, lines 43-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frogner and Smyth in view of Muratani in order to enable the use of a cost function. One would be motivated to do so in order to enable a billing system for billing a user accurate charges (fees) when information is utilized.

The combination of Frogner, Smyth and Muratani does not explicitly teach normalizing the size of the object.

However, McCloghrie teaches normalizing the sample in response to the sampling step (McCloghrie, col. 5, lines 21-24); determining the usage for the customer in accordance with step the normalizing step (McCloghrie, col. 5, lines 21-24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frogner, Smyth and Muratani in view of McCloghrie in order to enable normalizing the size of the object. One would be motivated to do so in order to collect aggregate information about network traffic in which the accuracy of frequency measurements can be improved.

47. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frogner in view of Muratani and further in view of McCloghrie.

48. With respect to claim 38, Frogner teaches a method for managing a data network in accordance with a traffic volume, comprising the steps of:

Adjusting a probabilistic parameter for a sampling window in accordance with a targeted sampling volume (Frogner, col. 8, line 29 – col. 9, line 67); receiving an object, where the object is characterized by a size (Frogner, col. 1, lines 33-37); determining whether to sample the object in accordance with a probabilistic parameter, where the probabilistic parameter approximately optimizes a function, where the function relates the probabilistic parameter to a sampling accuracy and a sampling volume; sampling the object in response to the determining step; determining an estimated traffic volume and utilizing the estimated traffic volume to manage the data network (Frogner, col. 8, line 29 – col. 9, line 67).

Frogner does not explicitly teach the use of a cost function.

However, Muratani teaches the method of where the probabilistic parameter approximately optimizes a cost function, where the cost function relates the probabilistic parameter to a sampling accuracy and a sampling volume (Muratani, col. 7, lines 43-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frogner in view of Muratani in order to enable the use of a cost function. One would be motivated to do so in order to enable a billing system for billing a user accurate charges (fees) when information is utilized.

The combination of Frogner and Muratani does not explicitly teach normalizing the size of the object.

However, McCloghrie teaches normalizing the sample in response to the sampling step (McCloghrie, col. 5, lines 21-24) and determining an estimated traffic volume in accordance with the normalizing step (McCloghrie, col. 4, lines 41-49).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frogner, Smyth and Muratani in view of McCloghrie in order to enable normalizing the size of the object. One would be motivated to do so in order to collect aggregate information about network traffic in which the accuracy of frequency measurements can be improved.

Response to Arguments

49. Applicant's arguments filed 20 June 2007 have been fully considered, but they are not persuasive for the reasons set forth below.

50. ***Applicant Argues:*** The references fail to teach, show or suggest a method for managing a data network, the method comprising the step of determining whether to sample the object in accordance with a probabilistic parameter.

In Response: The examiner respectfully submits that Frogner teaches determining whether to sample the object (the data sampling module is able to calculate an optimal data sampling frequency based on the network sensitivity and data uncertainty) in accordance with a probabilistic parameter (as a result of the utilization of probability distribution functions to model the network...the data capture engine includes a data sampling module for determining an appropriate network data sampling frequency for each selected node – see Frogner, col. 5, line 51 – col. 6, line 12). This renders the rejection proper, and thus the rejection stands.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Baturay whose telephone number is (571) 272-3981. The examiner can normally be reached at 7:30am - 5pm, Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alicia Baturay
August 27, 2007

SALEH NAJJAR
SUPERVISORY PATENT EXAMINER